Forest Health Highlights 2018
Nebraska

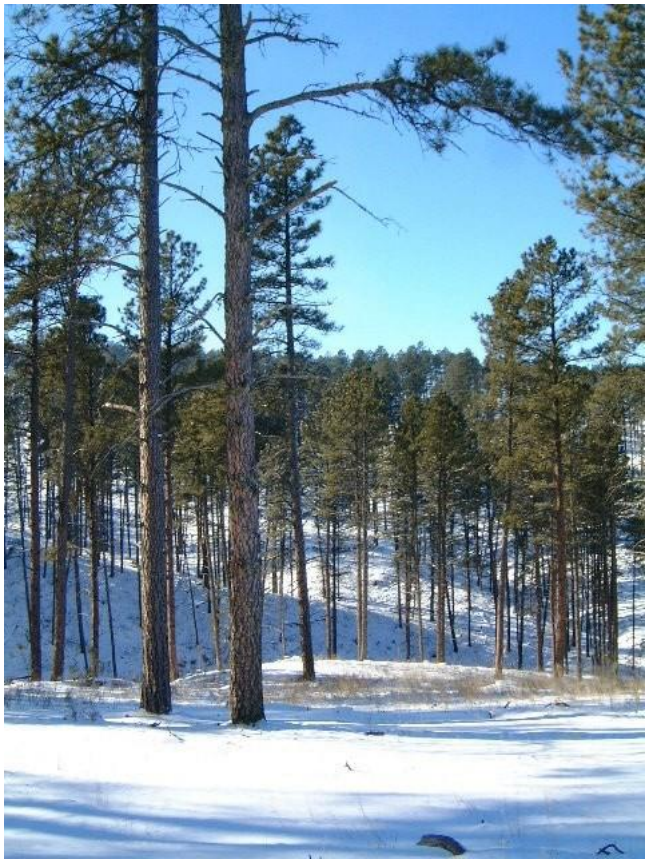
Nebraska Forest Service

The Forest Resource

Nebraska boasts a diverse array of forest resources. From the ponderosa pine forests of the Panhandle's Pine Ridge to the hardwood forests of the Missouri River bluffs, trees and forests play an important role in the lives of all Nebraskans and in the stability of ecological systems across the state and region.

Nebraska's 1.24 million acres of forestland represents many unique mixes of vegetation types. The hardwood forests of eastern Nebraska are representative of the central hardwoods of the eastern United States. Ponderosa pine forests in the west are representative of the Rocky Mountains, and the birch/aspen forests in northern Nebraska are representative of northern boreal forests. These forest types, combined with elm-ash-cottonwood riparian forests, mixed conifer forests, conservation tree plantings and urban forests, create a highly diverse and unique array of tree and forest resources growing within an agricultural and range landscape. With the addition of non-forestland with trees, conservation plantings and community forests, the total number of acres of treed or forested areas is approximately 3.3 million acres.

The dominant species of Nebraska's non-forestland with trees (defined as less than one acre, less than 120 feet wide and less than 10% stocked) are eastern redcedar, Siberian elm, hackberry, red mulberry and ash. These trees provide unique benefits such as rural home wind protection, snow drift management, energy savings, livestock protection, crop protection and yield increases, water quality and soil protection, wildlife habitat and other ecosystem services. Although not large units individually, combined these areas are important components that provide key and essential ecosystem services in Nebraska's rural agriculture-dominated landscape.



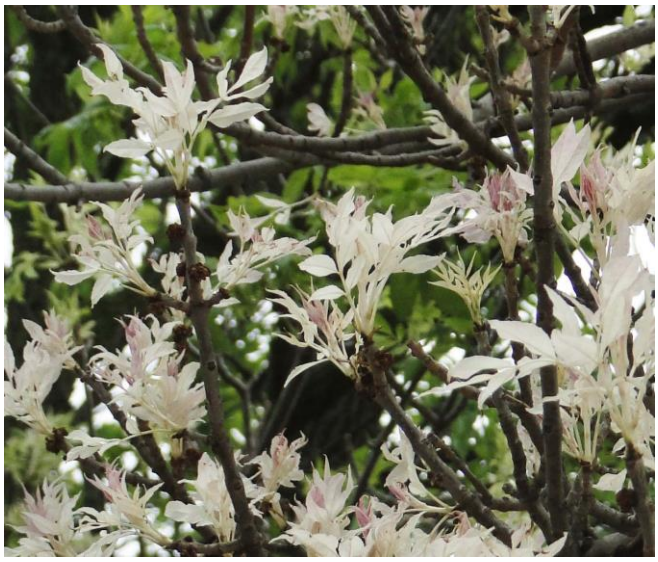
Ponderosa pine in the Pine Ridge
Top photo: Stream in the Niobrara River Valley

Pests and Problems of Note in 2018

Herbicide Damage

Herbicide damage to trees was common in 2018, especially symptoms such as leaf curling, cupping, and distortion typical of the damage caused by growth regulator herbicides. These herbicides are commonly used in agricultural fields and urban landscapes. Many are volatile and can move off-site long distances.

Curled, cupped leaves of ash, possibly caused by growth regulator type herbicides



Pink to white new growth on ash in a landscape treated with mesotrione

Spring Heat Stress

Record-breaking high temperatures occurred in late May across Nebraska, with temperatures topping 100 degrees F in some areas. Leaf yellowing and defoliation was evident on trees, especially hackberry.

Early hot spring temperatures induced yellowing and defoliation of hackberry.

Diplodia Blight

Diplodia blight (*Diplodia sapinea*) continued to damage and kill many pines in Nebraska in 2018 in both urban and rural areas. According to a USFS aerial survey, large areas in the Pine Ridge north of Rushville were damaged by Diplodia. Such large areas typically result when latent infections are triggered by hail storms.

Velvet Longhorned Beetle

In 2018, walnut wood originating from South Dakota and brought to Wynot in the northeastern part of Nebraska was determined to be infested with velvet longhorned beetle (*Trichoferus campestris*). A table made from the wood and sold to a resident of Yankton, South Dakota, had adult beetles emerge. Nebraska Department of Agriculture placed traps at 15 sites in 10 counties, mainly in locations at high risk for introduction and establishment (primarily state parks and nurseries). Most were in the northern and eastern parts of the state. No suspect specimens were collected. Trapping will continue in 2019.

Emerald Ash Borer

Emerald ash borer (*Agrilus planipennis*) was detected in two new counties in 2018: Lancaster (city of Lincoln; adult in trap) and Dodge (city of Fremont; infested trees). This brings the number of known infested counties to four (including Douglas and Cass). Adult beetles were also trapped at Mahoney State Park in 2018, which is located in Cass County. Eight counties (Cass, Dodge, Douglas, Lancaster, Otoe, Sarpy, Saunders, and Washington) are included in a state quarantine to restrict the movement of ash and other hardwood materials.

More information on eab in Nebraska.

Emerald ash borer larva in ash wood from Fremont showing the typical "J" shape of the overwintering larvae

Japanese Beetle

Japanese beetle (*Popillia japonica*) continues to spread to new areas of the state. The Nebraska Department of Agriculture added three more counties to the list of infested counties: Nance, Polk, and Pierce. A total of 41 of 93 counties are considered infested. Linden, cherry, peach, birch, and hazelnut are among the common trees and shrubs heavily defoliated by this pest.

Visit the Nebraska Department of Agriculture for more information.

Pine Wilt

Pine wilt (*Bursaphelenchus xylophilus*) continued to kill Scotch and Austrian pines in 2018. The disease occurs throughout the state, and the Nebraska Forest Service no longer recommends using Scotch pine in long-term plantings.

Oak Decline

Over the last several years, an increasing number of bur oaks in the eastern counties of the state have had browning leaves in late summer, early leaf drop, or leaves that stay on the tree through the winter months. Other symptoms include severe twig and branch dieback. These are all common symptoms of bur oak blight (*Tubakia iowensis*). This leaf blight seems to be most common on a subspecies of bur oak *Q. macrocarpa* var. *oliviformis*, found on higher, drier sites.

Some bur oaks may be declining from other factors: possibly a combination of bur oak blight, herbicide exposure, disturbance of native woodlands, oak wilt (*Ceratocystis fagacearum*), root decays, and borers. In the city of Oakland, a fluctuating water table may have been playing a role in the decline of several bur oaks in the city park.

More information on Nebraska Forest Health

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